

## RAIN HARVESTING

by Blue Mountain Co

# Maelstrom™



## Installation and Specification Guide

### PRODUCT DETAILS

Our revolutionary Maelstrom filters set a new standard in pre-tank rainwater filtering. Filtering multiple pipes at a single point, the Maelstrom's unique U-shaped filter keeps leaves and debris down to 180 microns out of your rainwater tank.

They also significantly increase your water catchment efficiency, even at high flow rates (96% at 10 litres per second in wet systems).

**RHML01** 100mm

### FEATURES AND BENEFITS

- A single point, tank-top filter with a ground breaking U-shaped design.
- The 180 micron filter screens particles 5 times smaller than is achieved with a standard tank screen.
- Reduces the hassle of cleaning leaf and debris build-up through Self-flushing.
- Blocks out light that supports algae growth.
- Is a versatile product, able to be installed in a variety of pre-tank locations.
- Reduces frequency and cost of tank cleaning by lowering common sediment build up through cleaner tank water.
- Mounting plate fits 300mm, 400mm and 500mm tank openings, or can be used for mounting in-tank, on wall or in a pit

# Installation

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## WHAT'S IN THE BOX?

- Maelstrom filter
- 6 zinc plated screws
- 3 flexible couplings  
(two on Maelstrom and one in box)

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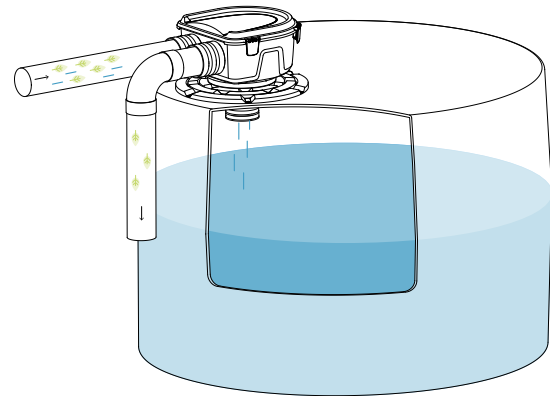
## TOOLS/MATERIALS YOU MAY REQUIRE

- Screwdriver
- Utility knife
- Marker pen
- Tape measure
- Brackets (wall mount or in-tank mount)
- Drill and Hole saw (pit mount or in-tank mount)
- 600mm/24" stormwater pit (pitmount)

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## TANK TOP MOUNT

1. Determine which port on your Maelstrom's symmetric U-bend you want to use for your water inlet and which port you want to use for your waste outlet. The filter works equally effectively in either direction, so assign each port depending on what's most convenient for your chosen installation point.
2. Remove the existing tank screen from the opening of your rainwater tank by unscrewing and pulling it out and off the tank.
3. Snap your Maelstrom out of the mounting plate.
4. Turn your Maelstrom's mounting plate upside down and, using your removed tank screen as a guide, trim to the nearest size by cutting in the channel as indicated. Ensure that once cut, the screw points on the mounting plate will still allow you to screw through the mounting plate into the top of the tank to provide a mosquito-proof seal.
5. Centre the mounting plate over your tank inlet and screw to your tank top using the screws supplied.
6. Remove the 100mm flexible coupling from the filtered water outlet (F), or you may wish to cut away the filtered water outlet from your Maelstrom in the cut channel provided to expand the outlet size and allow more water to enter your tank than the standard 100mm outlet. This is recommended if your rain harvesting system is designed to harvest 100% of your roof catchment area or if you're in an area that experiences high peak flows during rain events.
7. Snap your Maelstrom in place through the opening in the mounting plate.
8. Loosen the hose clamp on your chosen water inlet port. Measure and cut your inlet pipe and connect it so it fits within your chosen inlet port, then tighten the hose clamp around it.
9. Loosen the hose clamp on your chosen waste outlet port. Where practical, we recommend plumbing the overflow outlet so that it directs excess water and debris to stormwater. Alternatively, you can cap your waste outlet with a vented flap valve.
10. Whichever outlet option you choose, measure and cut your outlet pipe, insert it in your chosen outlet port, then tighten the hose clamp around it.

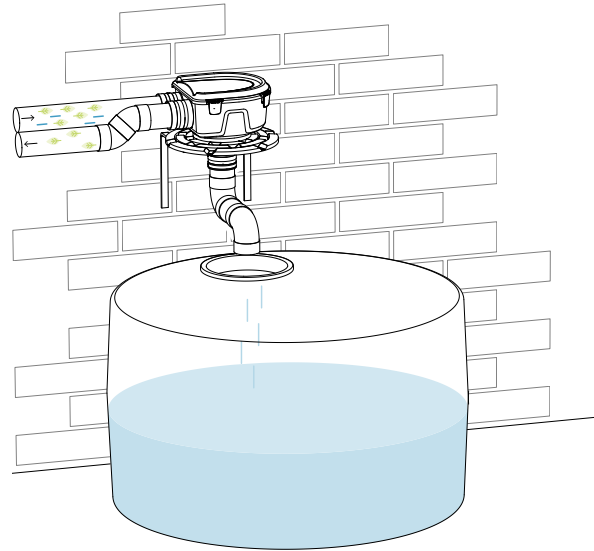


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## WALL MOUNT

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1. Determine which port on your Maelstrom's symmetric U-bend you want to use for your water inlet and which port you want to use for your waste outlet. The filter works equally effectively in either direction, so assign each port depending on what's most convenient for your chosen installation point.
2. Select appropriate brackets that can support your Maelstrom's mounting plate.
3. Install the brackets on your wall so that they're positioned to sit 102mm (4") below your pipework and at least 260mm (10.2") apart so there's enough clearance for your Maelstrom's filtered water outlet.
4. Snap your Maelstrom out of the mounting plate.
5. Screw the mounting plate to the brackets, ensuring it is centred.
6. Snap your Maelstrom in place through the opening in the mounting plate.
7. Loosen the hose clamp on your chosen water inlet port. Measure and cut your inlet pipe as required and connect it so it fits within your Maelstrom's inlet port, then tighten the hose clamp around it.
8. Loosen the hose clamp on your chosen waste outlet port. Where practical, we recommend plumbing the overflow outlet so that it directs excess water and debris to stormwater. Alternatively, you can cap your waste outlet with a vented flap valve.
9. Whichever outlet option you choose, measure and cut your outlet pipe, insert it in your chosen outlet port, then tighten the hose clamp around it.



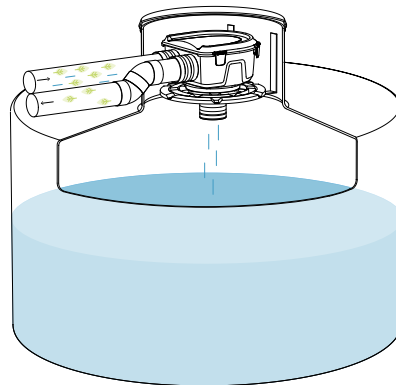
10. Loosen the hose clamp on the filtered water outlet. Measure and cut an additional length of pipe to connect your filtered water outlet to your rainwater tank. Insert it inside the filtered water outlet and tighten the hose clamp around it.
11. For best results, we recommend plumbing the other end of this pipe directly into your rainwater tank.

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## IN TANK

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1. Check that your assembled Maelstrom (including flexible couplings and mounting plate) will fit within your tank riser. There must be enough space to allow the clips on the lid to open and for the inlet and outlet pipes to be connected to your Maelstrom.
2. Identify the location of any existing inlets through the riser and use this to determine the height at which your Maelstrom will be positioned. The filter works equally effectively in either direction, so depending on what's most convenient for your chosen installation point, you can assign either port on your Maelstrom's symmetric U-bend as the water inlet or waste outlet.
3. Select appropriate brackets that will support your Maelstrom and install them inside the riser at least 260mm (10.2") apart so there's enough clearance for your Maelstrom's outlet.
4. Mark where the outlet port will be located on the tank riser and use a hole saw to create the hole.
5. Snap your Maelstrom out of the mounting plate.
6. Screw the mounting plate to the brackets, ensuring it is centred.
7. Remove the 100mm flexible coupling from the filtered water outlet (F), or you may wish to cut away the filtered water outlet from your Maelstrom in the cut channel provided to expand the outlet size and allow more water to enter your tank than the standard 100mm outlet. This is recommended if your rain harvesting system is designed to harvest 100% of your roof catchment area or if you're in an area that experiences high peak flows during rain events.

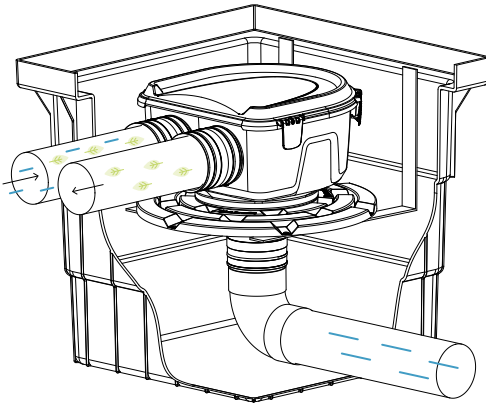


8. Snap your Maelstrom in place through the opening in the mounting plate.
9. Loosen the hose clamp on your chosen water inlet port. Measure and cut your inlet pipe, insert it inside the tank riser and connect it so it fits within your chosen inlet port, then tighten the hose clamp around it.
10. Loosen the hose clamp on your chosen waste outlet port. Where practical, we recommend plumbing the overflow outlet so that it directs excess water and debris to stormwater. Alternatively, you can cap your waste outlet with a vented flap valve.
11. Whichever outlet option you choose, measure and cut your outlet pipe, insert it in the tank riser and your chosen outlet port, then tighten the hose clamp around it.

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## STORMWATER PIT MOUNT (600MM/24")

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1. If desired, your Maelstrom can be installed below ground level in an appropriately sized stormwater pit.
2. Determine the position of where your filtered water pipe will exit the pit and mark this position. The pipe can exit on either of the four sides or through the base. If exiting through the side wall you may wish to use a 90 degree bend to directly connect your pipe to the Maelstroms coupling.
3. Determine the position your inlet and waste pipes will penetrate the sides of the pit wall and mark.
4. Mark the position of the support rod holes. Support rods should be approx. 108mm (4.25") below the bottom of the inlet/waste pipes and approx. 300mm (11.8") apart to allow adequate support of the mounting plate.
5. Drill out all penetration holes as required and deburr.
6. Install and tighten threaded rod and appropriate nuts and washers to both inside and outside of pit wall for both supports. It is recommended to use stainless steel or galvanised components.
7. Position the pit in place and install the filtered water pipe allowing for the required length to enter the coupling. Seal around the pipe and pit wall using appropriate sealant.
8. Lower the Maelstrom in place ensuring the coupling is positioned over the filtered water pipe and tighten the hose clamps.
9. Install the inlet and waste pipes through the pit wall and into the Maelstroms coupling. Tighten the hose clamps and seal around the pipes and pit wall using appropriate sealant.
10. It is recommended to install the pit with an appropriate lid to prevent water ingress.

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## MAINTENANCE

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For best performance, check and maintain your Maelstrom on a regular basis. The required frequency of maintenance will depend on the environment in which your Maelstrom is installed. High debris areas will require more regular maintenance than low debris areas.

To determine how frequently maintenance will be required in your location, we recommend inspecting the primary and secondary filter after the first rainfall event and planning your maintenance schedule based on this initial inspection.

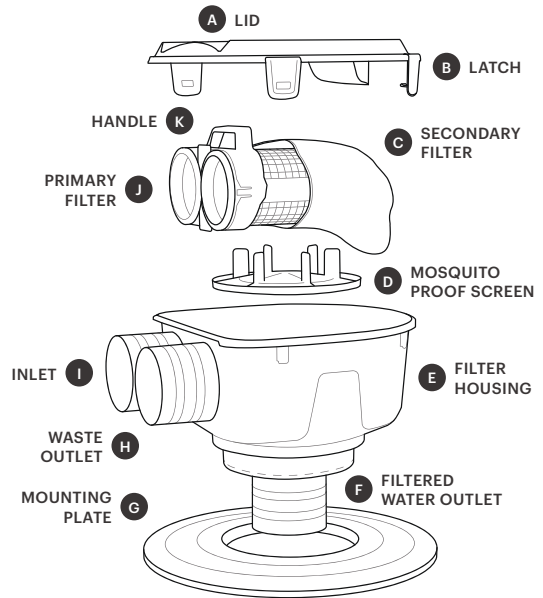
To clean your Maelstrom, unlatch and remove the lid.

Grasp the handle at the front of the filter and lift it upward to remove. Release the four handle clips, slide the handle off the primary filter and remove the secondary filter. Use a hose to wash out the secondary filter. If required, you can use a brush to remove any debris. Lift the mosquito proof screen out and brush or hose off any debris on either side of the screen.

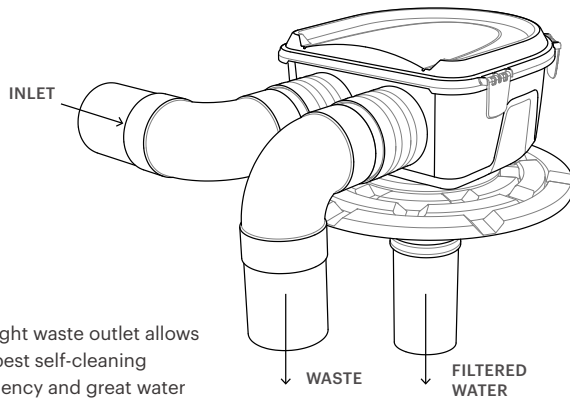
Replace the mosquito proof screen, ensuring it sits securely in place. Replace the secondary filter and re-secure the handle. Return the filter to its position within the filter housing and clip it back in place, then replace the lid and secure it with the latches.

## HOW IT WORKS

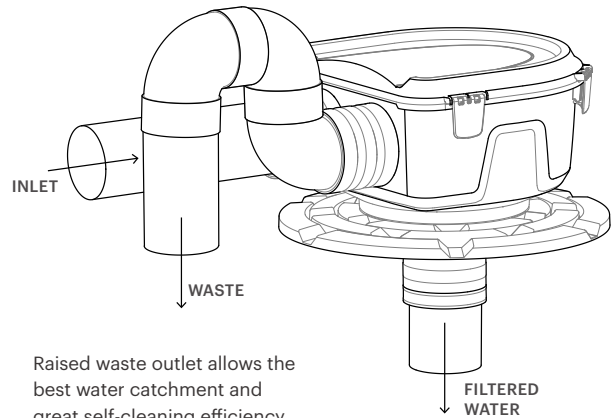
1. Rainwater enters the Maelstrom through either of the horizontal-facing couplings.
2. The rainwater then enters the Primary Filter (J). The unique curved filter slows the velocity of the water by changing the direction of it's flow.
3. Surrounding the Primary Filter is a Secondary Filter (C), comprising of a nylon mesh bag which filters fine particulates larger than 180 micron. This filter assembly is easily removable and will require periodic maintenance.
4. The filtered rainwater then continues to move through the Maelstrom to the Filtered Water Outlet (F) and into the rainwater tank or pipe (if attached).



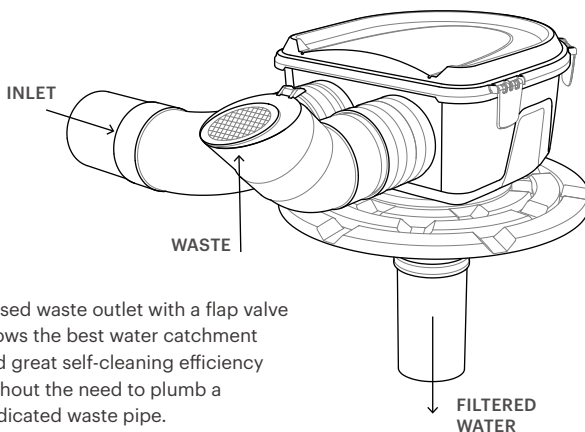
## OVERFLOW OPTIONS



Straight waste outlet allows the best self-cleaning efficiency and great water catchment.

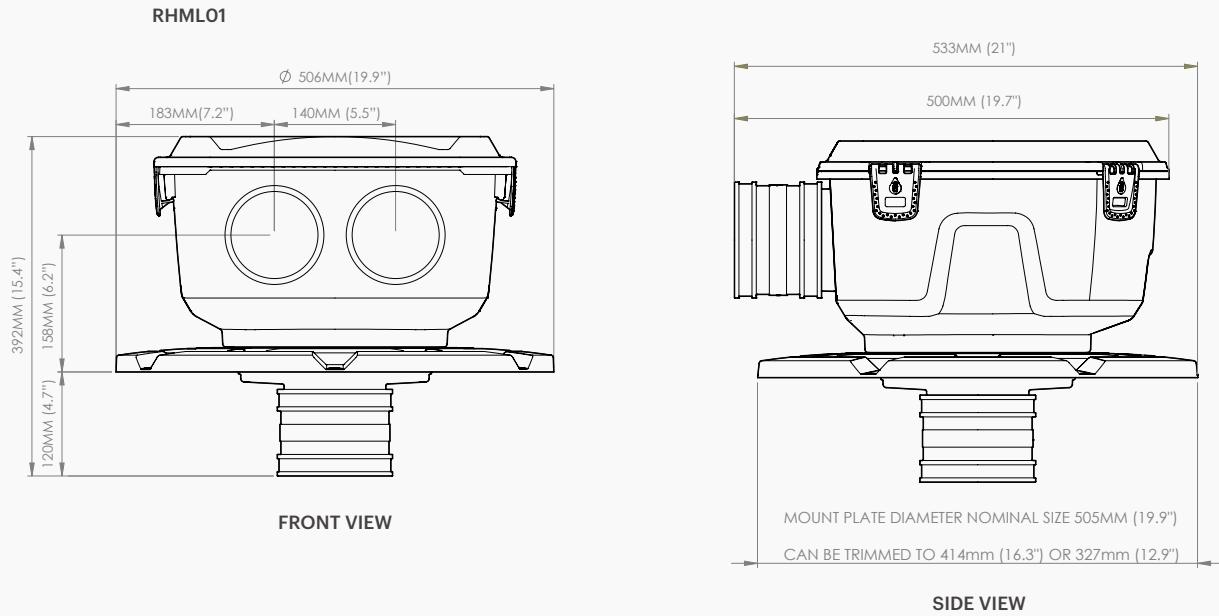


Raised waste outlet allows the best water catchment and great self-cleaning efficiency.



Raised waste outlet with a flap valve allows the best water catchment and great self-cleaning efficiency without the need to plumb a dedicated waste pipe.

**PRODUCT DIMENSIONS**



Primary Filter	2mm (0.08") Aperture, Polypropylene
Secondary Filter	0.18mm (180µm) Aperture, Nylon
Mosquito Proof Screen	0.955mm (0.04") Aperture, SS316
Inlet & Outlet Pipe Size	DN100 (110mm OD) / 4" OD
Coupling	Flexible, EPDM
Body & Base Plate	ABS, Polypropylene
Base Plate	Fits 500mm tank opening, cut to fit 400mm or 300mm tank opening

**Performance Data**

Water Catchment Efficiency @ 5L (1.32gal) / second*	99%
Water Catchment Efficiency @ 10L (2.64gal) / second*	96%

\*For wet/charged system configuration with clean water flow

ALL DIMENSIONS IN MM UNLESS OTHERWISE STATED.

DISCLAIMER This product specification is not a complete guide to product usage. Product specifications may change without notice. For more information visit [rainharvesting.com.au](http://rainharvesting.com.au). Keep this manual handy for future reference. © Rain Harvesting Pty Ltd.

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